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Italy, might be worth trying here, where, as President Butler points out, legislatures solemnly propose to prohibit the teaching of the established facts of evolution or actually forbid children under fourteen to attend private school.

What President Butler says about overloading the school curriculum is sound, and so are his observations about the lack of correctness and precision in speech and of gentle manners and of the power of reflection; but whatever these shortcomings are, they can not be traceable to federal interference with the curriculum or the methods of training of that "American school under which our generation has been brought up" and which has left us, as he intimates, undisciplined and only meagerly cultured.

Might it not be well if the nation as a whole took some concern in education? Is the president in need of political advisers only? Has he not rightful responsibility for such matters of common welfare as are suggested by the activities and policies of the Departments of Labor and Commerce and Agriculture and the all-embracing service of the Post Office Department? "Better remove the heads of these from the cabinet than add a new member." But why should not the president have the benefit of the advice of such a man, for example, as Dr. Butler himself to help exalt the teacher in this Republic as a whole, to insist upon the best training, and to see that the teacher has the recognition "which belongs to his station and the importance of his task"? It seems unfair to the teachers who have asked for such a recognition for their profession to be accused of "professional vanity and pride." "The federal government," said President Coolidge in his recent message, "might well give the benefit of its counsel and encouragement more freely" in the direction of education, even though it is "peculiarly a local problem." May this course not conceivably help to remedy some of the shortcomings which Dr. Butler finds in American education?—*The New York Times*.

THE PRESIDENT'S RECOMMENDATION REGARDING EDUCATION

In education the president makes a recommendation which will be received with mixed

feelings by the supporters of the long-pending Smith-Towner bill. That measure, originating in 1918, provides for a Secretary of Education and for a system of federal aid to state education for the removal of illiteracy, the Americanization of foreigners, the promotion of public health education, and the general equalization of educational opportunities. It has been strongly opposed, but in revised form has steadily gained strength. President Coolidge now declares that he is for a Secretary of Education, with a seat in the cabinet, but against "the making of appropriations from the national treasury to be expended directly on local education." The *Evening Post* has always thought that the bill, with suitable safeguards, should pass. The most important safeguards are those which would prevent an excessive centralization of educational authority at Washington, and guarantee the separate states a proper authority over their own schools. It is to be hoped that in opposing "direct" aid to local education the president means simply that aid, if granted, should be given through the state departments of education.—*The New York Evening Post*.

EDUCATIONAL RESEARCH AND STATISTICS

THE INTELLIGENCE OF MEXICAN CHILDREN

SINCE it is now well established that intelligence tests enable us to compare accurately the ability of one child with another, of approximately the same age, it seems probable that in the same way we can reliably compare the intelligence of children of different races by means of such tests. Moreover, we can in this way get definite comparisons for each year of chronological age, in terms of mental age. A further advantage of the use of well-standardized tests lies in the fact that the researches of one investigator can be compared directly with those of another, and the final result should be a picture of the development of intelligence year by year in the races studied. The following results of the testing of young Mexican children are reported in the hope of contributing a few items to the study of comparative

racial intelligence, as based on tests given to children of all ages, throughout childhood and youth.

In school systems having a large admixture of foreign children, it is essential that the intelligence of the foreigners be known as accurately as possible, and that every effort be put forth to use such knowledge to the best advantage. As this problem is rendered important in southwestern United States by the presence of a considerable Mexican population, it was suggested by Professor L. W. Cole, of the University of Colorado, that I test for comparative purposes, one hundred white and one hundred Mexican children, of the same age and school environment.

The work was done in the spring of 1923 at Roswell, N. M., where the desired conditions could be fulfilled. All the two hundred children tested were in school at the time. They were all enrolled in the first grade, excepting twenty of the Mexicans, who were unclassified. For the most part, these Mexican children were able to understand English as well as their white schoolmates; they were not separated from the whites, but taught in the same classes with them. However, one school in this city was found to be devoted entirely to Mexicans, and here the children understood English very imperfectly. To overcome the difficulty in this school, it was necessary that the children tested (about forty) be given the group tests by their respective teachers. These teachers were able to make themselves understood by the use of a sort of Spanish-English dialect colloquially called "spic," or mongrel Spanish. With this exception, all the tests were given by the writer.

In order to make the results very reliable, two tests were given to each child, namely, a Cole-Vincent group test,¹ and immediately

¹ The Cole-Vincent group test for school entrants is a test devised at the University of Colorado, which aims to classify children by mental age, giving each child the same mental age, as nearly as possible, as does the Binet individual test. In this investigation, the group test was used merely as a check to insure accurate results, but the remarkably high correlations obtained between the two tests are worthy of note. These correlations, which were computed by means of the Pearson product-moment formula, are as follows:

thereafter, a Binet individual test (Stanford revision). In giving the group test, the children were divided into groups of twenty-five or less, and all were tested at approximately the same hour—from one-thirty to three o'clock in the afternoon. The Binet tests were all given in the afternoon, as soon after the group tests as possible. This work was greatly facilitated by the enthusiastic cooperation of Superintendent D. N. Pope and the teachers in charge.

TABLE I—RESULTS OF BINET TESTS

	Whites	Mexicans
Av. mental age (months)	86	81
Median mental age.....	82	78
Range of mental ages.....	66-115	58-110
Av. chronological age.....	82	91
Range of chron. ages.....	63-113	66-153
Av. intelligence quotient..	104.8	89
Range of I. Q.'s.....	61.9-155.4	52.3-143.2

The essential facts of the investigation are condensed in Table I. The results show that the average mental age of the whites was five months greater than that of the Mexicans; the former averaged seven years, two months in mental age, as compared with six years, nine months for the Mexicans. But there was also an average difference of nine months in chronological age. The Mexicans were nine months

Cole-Vincent and Binet mental ages,
white children $r = .878$

Cole-Vincent and Binet mental ages,
Mexican children $r = .900$

In view of such high correlations it should be mentioned that this group test has been made purposely to correlate highly with the Binet test. By recording the mental ages of about one thousand children who had been tested with both the Binet and Cole-Vincent tests, the latter test was gradually modified to give the child about the same mental age as did the Binet. For the two hundred children in question, the group test afforded nearly as satisfactory a classification as did the Binet test, or the two tests combined. In only nine cases out of two hundred did the two tests disagree by more than a year. That is, if we accept the Binet as perfect, only $4\frac{1}{2}$ per cent. of the children were misplaced by more than a year, by the group test. Yet only eight hours were required to give this test to two hundred children, while the Binet requires about an hour for each child.

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older than the whites. They averaged seven years, seven months, as compared with six years, ten months, for the latter. Now if we may be permitted to add this difference of nine months to the five months which represents the mental age difference, the total average difference in intelligence is fourteen months, in favor of the white children. Then, if we assume that the average white child in the first grade of the school system in question was of normal intelligence, we may say that the average Mexican was fourteen months below the normal mental development for white children of the same school grade.

The comparison becomes much clearer when expressed in the form of intelligence quotients. The average Binet intelligence quotient for the white children was 104.8, while that of the Mexicans was 89. This gives a difference of 15.8 between the two groups, which places the Mexicans at an intelligence level almost exactly 85 per cent. of that of the whites. Considering the Mexican children as a group, then, we may say roughly that the tests rated their intelligence at about 85 per cent. of that of a normal group of white children of the same age and school environment.

From a review of published reports on the intelligence of foreign children in America, it has been possible to construct a table tentatively giving the comparative intelligence of various races. While not all investigators have used standardized tests which yield an intelligence quotient, many of them have stated the intelligence of their foreigners as a percentage of American intellectual ability. If these percentages are approximately as reliable as Binet tests, we are justified in incorporating them, together with such average intelligence quotients as have been reported, into a table, as Table II.²

² The data used in this table were taken from papers by a number of writers, including the following: S. M. Derrick (Negroes), G. O. Ferguson (Negroes), T. R. Garth (Indians), R. C. Moore (Negroes), Josiah Morse (Negroes), Katharine Murdoch (Italians, Hebrews), S. L. Pressey and G. F. Teter (Negroes), Rudolf Pintner and Ruth Keller (several nationalities), W. H. Pyle (Negroes), E. C. Rowe (Indians), A. C. Strong (Negroes), Dagny Sunne (Negroes), L. M. Terman (Americans), G. D. Walcott (Chinese), K. T. Yeung (Chinese) and others.

The figures given in this table will doubtless be revised by the use of standardized mental tests, but at present the relative intelligence of the races listed seems to be about as set forth.

TABLE II

Nationality	Average I. Q.
American	100
English	100
Hebrew	98
Chinese	90
Mexican (American)	85
Indian (American)	83
Slavish	83
Italians	77
Negroes	75

The curves of distribution of mental ages (Figure I) show no great irregularities. The

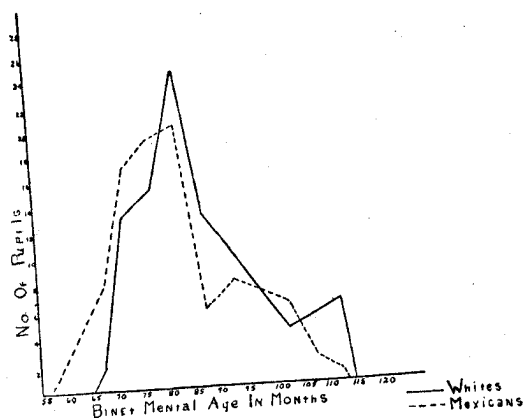


FIGURE I

most noticeable feature is the almost constant superiority of the white children and a rather large grouping of them at the higher mental ages. The Mexican curve crosses the white curve but once, and then, only for a brief interval. This figure clearly shows the Mexican children to be retarded in mental age, as compared with the white children, but it does not take into account the difference in chronological age.

The curves in Figure II are very significant, as they bring out the relationship between chronological age and mental age for both groups of children. To construct these curves, the children of both races were divided, according to age, into groups of ten. The average chronological and mental age for each of these

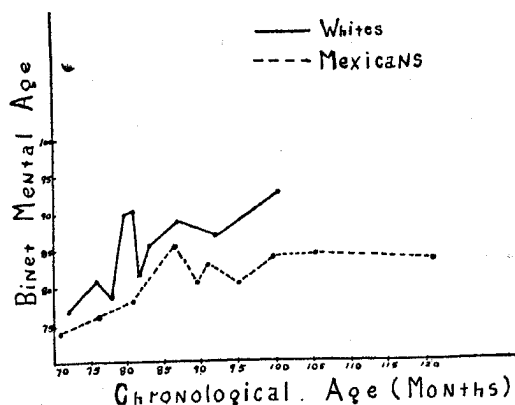


FIGURE II

twenty groups was then computed (see Table III) and plotted. The most interesting point

TABLE III—CHRONOLOGICAL AND MENTAL AGES

Group No.	Whites		Mexicans	
	Av. Chron. age	Av. mental age	Av. Chron. age	Av. mental age
1	72.2	77.1	70.4	74.6
2	76.5	81.2	76.5	76.7
3	78.0	78.7	81.7	78.1
4	79.6	90.1	86.9	85.8
5	81.4	90.7	89.5	80.5
6	82.0	82.0	92.0	82.9
7	83.3	86.2	95.4	80.7
8	87.0	88.6	99.2	84.3
9	92.1	87.2	105.0	84.1
10	100.3	92.7	120.8	83.4

brought to light by the data thus derived is an apparent tendency for the resulting curves to diverge as chronological age increases. At six years, there is a difference in mental age, between whites and Mexicans, of about three months; at seven years the difference is approximately four months, while at eight years it has grown to eight months. Moreover the average mental age of the Mexicans seems to have reached its maximum at around nine years, while the curve representing white mental age continues to rise with chronological age. Obviously, as the children grow older, the superiority of the whites becomes greater, and although the number of cases is too small to warrant any general conclusion at present, the evidence points towards the probability that the difference will be found to increase constantly until the maximum of mental development for whites is reached.

This conclusion is in keeping with the results

of most investigations of negro intelligence. There is a fairly general opinion among men who have studied the matter that with this race there occurs a period of standstill at about the tenth year, beyond which mental development is continued only in exceptional cases. However, in view of the fact that the Mexican children studied in this investigation demonstrated an average intelligence considerably superior to that possessed by negroes (see Table II), I think it will be found that the period of standstill does not in reality occur with this race until somewhat later—probably at about year twelve. The problem which presents itself in this connection is an important one for the student of comparative racial intelligence.

In addition to the facts already mentioned, a study of the results of the Binet tests shows that the Mexicans were about equal to the whites in tests of rote memory, visual memory, and interest in numbers, including comprehension of time periods. The whites were decidedly superior in tests involving comprehension (all degrees), judgment, and the higher associative processes, especially where sustained attention and accurate observation were necessary. The Mexican children showed a slightly greater range in mental age than did the whites, and a much greater range in chronological age, but the whites had the greater range in intelligence quotients, because of a few very high scores made by young children.

In summary: (1) The average Mexican child was found to be fourteen months below the normal mental development for white children of the same age and school environment; (2) expressed in percentage, the Mexicans as a group possessed about 85 per cent. of the intelligence of a similar group of white children; (3) by combining the results of this study with results reported by other investigators, Mexican children were found to be less intelligent than American, English, Hebrew and Chinese children, but more intelligent than Indian, Slavish, Italian and Negro children; (4) as chronological age increases, these results show that the proportionate difference in mental age between Mexican and white children becomes greater.

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